

Natural Frequency Analysis of Small-Scale Arch Structure by Shaking Table Test

Authors : Gee-Cheol Kim, Joo-Won Kang

Abstract : Structural characteristics of spatial structure are different from that of rahmen structures and it has many factors that are unpredictable experientially. Both horizontal and vertical earthquake should be considered because of seismic behaviour characteristics of spatial structures. This experimental study is conducted about seismic response characteristics of roof structure according to the effect of columns or walls, through scale model of arch structure that has the basic dynamic characteristics of spatial structure. Though remarkable response is not occurred for horizontal direction in the region of higher frequency than the region of frequency that seismic energy is concentrated, relatively large response is occurred in vertical direction. It is proved that seismic response of arch structure with column is varied according to property of column.

Keywords : arch structure, seismic response, shaking table, spatial structure

Conference Title : ICSE 2016 : International Conference on Structural Engineering

Conference Location : Paris, France

Conference Dates : July 25-26, 2016